Introduction to JSFL
Who am I?

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- Flash Developer at disturb media
- Creative Computing student at Goldsmiths, University of London
What will we talk about today?

We will learn how to get more out of the Flash IDE.

Who is this talk for?

Since we're at The London Flash Developers and Designers Meetup Group it is for both Developers and Designers.
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How can we get out more out of the Flash IDE?

Using JSFL.
What is JSFL?
What is JSFL?

JSFL is short for JavaScript Flash.
What is JSFL?

**JSFL** is short for **JavaScript Flash**

**JSFL** is the **scripting language** for the **Flash IDE**

This means we will be writing a bit of Javascript to control the Flash IDE.

That's about it!
Why would we want to do that?
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"He that would perfect his work must first sharpen his tools." Confucius (551-479)
Why would we want to do that?

The no.1 reason I use jsfl is to

GET READ OF TEDIOUS REPETITIVE TASKS!
Why would we want to do that?

The no.1 reason I use jsfl is to **GET READ OF TEDIOUS REPETITIVE TASKS**!

The no.2 reason is it allows a bit of freedom to **create your own tools** and make cool stuff.
How many times have you done things like this:
- add stop()
- duplicate layer
- guide+hide a layer
- reset the registration of a MC by aligning its content centre/TL
- flip horizontal/vertical
...
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How much time did you spend doing this?
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- add stop()
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- flip horizontal/vertical
...
?

How much time did you spend doing this?
Could it be more efficient?
Randall Monroe, http://xkcd.org/85/

When I'm walking, I worry a lot about the efficiency of my path.
Some basic examples:
LazyBoy Panel by me
Copy Fill as AS3 by Tink
Output Flash Filters, Record Stage Animation, etc.
by Slavomir Durej
Some animation tools (some of them oldschool, but handy):

http://www.dave-logan.com/weblog/?p=46
http://www.toonmonkey.com/extensions.html
http://www.animonger.com/freetools.html

Autocolor by Dave Logan

Timing Chart by ToonMonkey
Great CS4 extensions by Justin Putney (ajarproductions)
There quite a few handy things to be made:

- **commands** - to bind to keyboard shortcuts
- **panels** - windowSWF/swfPanel
- **tools**
- other-oldscool (behaviors - as2.0 only, timeline effects*)
- **new** - procScripts - Deco Tool, etc

*timeline effects were present in Flash up until version 9(CS 3)
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- new - procScripts - Deco Tool

Ok, now we know JSFL is.
Time to get something done:
Tutorial 1
- keep an eye out for a repetitive task
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- our goal is to progress/learn from our past > History Tool
  - finds steps that aren't marked' with a red X
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  - selects the steps needed > click the floppy disk icon
(Save selected steps as command)

hey! no code! :)

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hey! no code! :)

Now you can assign a keyboard shortcut
(Flash > Keyboard Shortcuts)
Tutorial 2
Inspecting what is happening
- open a saved jsfl file
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- open a saved jsfl file
- look at the code - some of it is 'readable'
Tutorial 2

Inspecting what is happening
- opening a jsfl file
- look at the code - some of it is 'readable'
- repeat (what you do when you don't understand something)
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History Panel
- select the Panel's context menu(
- view (from the Panel's context menu) >
  arguments in panel /
  javascript in panel /
  arguments in tooltip, etc.
More JSFL

Commands

Mostly you will be working with the document, accessing properties of elements (like MovieClips, Drawing Shapes, etc.)

You can either use the current selection, either use access the timeline and layers to get to the element you want to modify.

Before we move on, I need to point out that in CS4 the documentation in not included in the IDE, but it present online.

It might be handy to download it as a PDF for offline reference.
The document:

```javascript
var doc = fl.getDocumentDOM();
```
The `document`:

```javascript
var doc = fl.getDocumentDOM();
```

The `selection`:

```javascript
fl.trace(doc.selection); // result is array
```

You can select `everything` if you want:

```javascript
doc.selectAll();
```

Or `nothing` (clear selection):

```javascript
doc.selectNone();
```
Accessing the selection

```javascript
var doc = fl.getDocumentDOM();//get the current document ref.
var selection = doc.selection;//get the selection

var elementsNum = selection.length;//store this for counting*
for(var i = 0 ; i  < elementsNum ; i++){
   fl.trace(selection[i]);
}
```
Accessing the selection

```javascript
var doc = fl.getDocumentDOM(); // get the current document ref.
var selection = doc.selection; // get the selection

var elementsNum = selection.length; // store this for counting
for(var i = 0; i < elementsNum; i++) {
    fl.trace(selection[i].name+'.x = ' + selection[i].x+';');
}
```
Accessing the selection, generating XML

The JSFL Engine was updated to Javascript 1.6 in Flash CS3, which also means you get to use XML and E4X! For more details see Robert Penner's post on this.

```javascript
var doc = fl.getDocumentDOM();//get the current document ref.
var selection = doc.selection;//get the selection
var layout = <layout />;//create the root node for our xml

var elementsNum = selection.length;//store this for counting*
for(var i = 0 ; i < elementsNum ; i++){
    layout.appendChild(<element />);//add an element node
    layout.element[i].@name = selection[i].name;//setup attributes
    layout.element[i].@x = selection[i].x;
    layout.element[i].@y = selection[i].y;
}
fl.trace(layout); //let's see some output
```
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    layout.element[i].@name = selection[i].name;//setup attributes
    layout.element[i].@x = selection[i].x;
    layout.element[i].@y = selection[i].y;
}
fl.clipCopyString(layout);//now it's in the clipboard!
```
Accessing the selection, generating XML

Tiny gotcha!

The autocomplete will display

```
fl.copyClipString(string);
not
fl.clipCopyString(string);Trust the documentation, not the IDE on this one
```
Accessing the selection, generating XML, saving to a file

```javascript
var doc = fl.getDocumentDOM();//get the current document ref.
var selection = doc.selection;//get the selection
var layout = <layout />;//create the root node for our xml

var elementsNum = selection.length;//store this for counting*
for(var i = 0 ; i  < elementsNum ; i++){
    layout.appendChild(<element />);//add an element node
    layout.element[i].@name = selection[i].name;//setup attributes
    layout.element[i].@x = selection[i].x;
    layout.element[i].@y = selection[i].y;
}
fl.trace(FLfile.write("~/layout.xml",layout));//beware!
```

**FLfile warnings:**
1. setup the URI properly('file:///c:'...on PC, '/Work/prj'...on OSX
2. we trace the result, because you can write files only if you uses has the rights to do so!
3. Use it wisely, there's no UNDO if you mess up files!
You can use JSFL with actionscript 3.0 by writing a Flash Panel (aka swfPanel, Window SWF)

In actionscript all you need to do is call:

```
MMExecute("your javascript here");
```

e.g.

```
MMExecute("alert('Hello from AS3!')");
```

The function returns a String which is the result of the JSFL operation(s), handy for debugging.

A very good video tutorial on Lee Brimelow's gotoandlearn
Where to go from here:

Since you know scripting basics and how to access documentation, you can script away in other software.

If you look in CS4's extension manager, you see Photoshop, Illustrator, etc. You can actually develop Flash Panels for those apps, work with AIR, etc.

Homework:
Look at other software on your machine, see if has a javascript API and print an alert :)

Introduction to JSFL
Thanks LSBU for hosting us!

Thank you for dropping by ^_^